

REMARKS

I. Introduction

Claims 7 and 13 to 18 are pending in the present application, with claims 15 to 18 being withdrawn from consideration. In view of the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

II. Rejection of Claims 7, 13, and 14 Under 35 U.S.C. § 103(a)

Claims 7, 13, and 14 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of U.S. Patent No. 4,245,789 ("Gray"), U.S. Patent No. 5,732,888 ("Maier et al."), U.S. Patent No. 5,226,975 ("Denton et al."), and U.S. Patent No. 6,592,947 ("McCane et al."). It is respectfully submitted that the combination of Gray, Maier et al., Denton et al., and McCane et al. does not render unpatentable these claims for at least the following reasons.

As an initial matter, the "Response to Arguments" beginning on page 6 of the Office Action is unclear. In particular, the Examiner asserts that Applicants' arguments submitted in the "Amendment" filed December 1, 2009 are not persuasive and appears to maintain that the previously relied-upon combination of Gray, Maier et al., and Denton et al. would disclose all of the features of claim 7, despite the fact that the Examiner has withdrawn the previous rejection and further admits on page 5 of the Office Action that combination of Gray, Maier et al., and Denton et al. does not in fact disclose all of the features of claim 7. In this regard, Applicants respectfully submit that the contentions beginning on page 6 and continuing onto page 7 of the Office Action are not supported by what is actually taught by Gray, Maier et al., and Denton et al. and maintain all of the positions set forth in the "Amendment" submitted on December 1, 2009.

The Office Action admits at page 5 that the combination of Gray, Meier et al., and Denton et al. fails to disclose a height difference between raised areas and recessed areas that is initially between 5 μ m and 10 μ m and is reduced to between 4 μ m and 5 μ m during use of the fuel injector. The Office Action contends, however, that it would be obvious to provide the coating of Gray, as modified or combined with the teachings of Maier et al. and Denton et al. with raised and recessed areas of 5 to 10 μ m as allegedly taught by McCane et al. Applicants respectfully disagree.

It is initially noted that the Office Action alleges at page 5 that McCane et al. teaches depositing a coating onto a roughened surface that is “5 to 50 μm deep.” McCane et al. does not appear to disclose a roughened surface having this alleged depth.

McCane et al. relates to a galvanization process for parts such as, e.g., automobile bodies and closures such as doors, hoods, deck lids, and lift gates. Col. 5, lines 26 to 30. McCane et al. discloses spraying powders having a size range of 5 to 50 microns having sufficient plasticity to generate dense deposits through impact fusion. Col. 4, lines 18 to 25. It is initially noted that, contrary to the assertions in the Office Action, **McCane et al. does not in any way disclose or suggest a coating having a height difference between raised areas and recessed areas that is between 5 μm and 10 μm .** McCane et al. discloses that a powder having a size range of 5 to 50 microns is sprayed onto a surface in such a manner that it deforms and fuses into the surface. See col. 4, lines 18 to 25. There is no disclosure regarding the dimensions of the powder particles after being deformed and fused into the base material, much less the dimensions of the surface after the coating is fully applied. Any contention that the disclosure of McCane et al. results in a coating with raised and recessed areas within the ranges claimed in the present application would be based on nothing more than speculation and conjecture, which cannot support an obviousness rejection.

As regards the contention at page 5 of the Office Action that Figure 1 of McCane et al. evidences a height difference between 5 μm and 10 μm , it is well-settled that proportions of features in a drawing are not evidence of actual proportions when drawings are not to scale. See M.P.E.P. § 2125. There is no mention in McCane et al. that Figure 1 is drawn to scale. Further, Figure 1 illustrates the components during the application process, not a fully applied coating. See col. 3, lines 9 to 20 and Figure 1.

Further, even assuming, *arguendo*, that McCane et al. did teach providing a galvanized coating having a difference between raised and recessed areas of between 5 μm and 10 μm —which it does not—there would still be no apparent reason to add such a feature to the coating according to the proposed combination of Gray, Maier et al., and Denton et al. As an initial matter, McCane et al. is directed to a general galvanization process rather than a coating suitable for contact faces of a fuel injector. Moreover, there is no disclosure in McCane et al. of

any significance whatsoever to any height difference between any raised and recessed areas an applied galvanization coating, much less any significance to a coating applied to contact surfaces of a fuel injector.

Further still, **Gray—which pertains specifically to a fuel injector—plainly teaches away** from any proposed modification of the surface roughness to have raised areas and recessed areas that are within the ranges claimed in claim 7 of the present application. In addition to unambiguously setting forth that the surface 63s of a core of a pole piece 62 should have a surface roughness rating value on the order of 0.4 μm to 0.8 μm , Gray also sets forth that ***“the surface 73s of the armature 73 can have a roughened surface texture over its entire surface area of a roughness average rating value of 8 to 12 microinches (0.20 to 0.30 micrometers) maximum”*** (emphasis added). Using the definition of the roughness rating disclosed in Gray, this would indicate a peak-to-valley average on the order of ***0.4 μm to 0.6 μm maximum***. Thus, even if McCane et al. taught a height difference between raised and recessed areas of between 5 μm and 10 μm —which, as set forth above, it does not—this feature would not have been an obvious modification to the fuel injector of Gray, alone or in combination with Maier et al. and Denton et al. Indeed, it appears that the proposed modifications to the fuel injector of Gray are based on nothing more than hindsight reasoning.

In view of the foregoing, it is plainly apparent that the combination of Gray, Maier et al., Denton et al., and McCane et al. fails to disclose, or even suggest, all of the features set forth in claim 7. Accordingly, it is respectfully submitted that the combination of Gray, Maier et al., Denton et al., and McCane does not render unpatentable claim 7 or claims 13 and 14, which depend from claim 7.

Regarding the continued contention on page 7 that claim 7 is a product by process claim, it is not apparent how or why “a surface structure with raised areas and recessed areas” is considered to constitute a product-by-process feature. Clarification is respectfully requested.

In view of the foregoing, withdrawal of this rejection is respectfully requested.

III. Conclusion

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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Dated: June 17, 2010

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